

---

*IN THE CLAIMS*

---

Claim 1 (Currently amended): A biosensor comprising:  
a substrate, at least a portion being non-embossed,  
a reagent positioned on the non-embossed portion of the substrate, and  
a cover positioned on the substrate, the cover including a top side and a generally flat non-embossed bottom side, the bottom side being coupled to the substrate to define a sealed portion and an unsealed portion, at least a portion of the unsealed portion of the generally flat non-embossed bottom side ~~lying upon the reagent and~~ cooperating with the substrate to define a channel extending across the reagent.

Claim 2 (Original): The biosensor of claim 1, wherein the cover includes an opening and the channel extends between the opening and the reagent.

Claim 3 (Original): The biosensor of claim 2, wherein the cover includes opposite ends and the channel extends between the opening and one of the ends.

Claim 4 (Original): The biosensor of claim 2, wherein the cover includes a second opening and the channel extends between the first and second openings.

Claim 5 (Original): The biosensor of claim 4, wherein the cover includes opposite edges and one opening is formed in each of the opposite edges.

Claim 6 (Original): The biosensor of claim 5, wherein each opening is defined by a disrupted concave surface.

Claim 7 (Previously amended): The biosensor of claim 2, wherein the cover includes a second opening that is aligned with the reagent.

Claim 8 (Original): The biosensor of claim 7, wherein the channel converges from the first opening toward the second opening.

Claim 9 (Original): The biosensor of claim 1, further comprising electrodes positioned on the substrate and the channel extends across at least a portion of the electrodes.

Claim 10 (Original): The biosensor of claim 9, wherein the cover includes an opening to the channel that is spaced-apart from the electrodes.

Claim 11 (Original): The biosensor of claim 1, wherein the channel has a height that is less than 10  $\mu\text{m}$ .

Claim 12 (Original): The biosensor of claim 1, further comprising an adhesive positioned between the cover and the substrate.

Claim 13 (Currently amended): A biosensor comprising:  
a substrate, at least a portion being non-embossed,  
a reagent positioned on the non-embossed portion of the substrate, and  
a cover positioned on the substrate, the cover having a top side and a generally flat non-embossed bottom side, and an opening extending between the top and bottom sides, the bottom side being coupled to the substrate to define a sealed portion and an unsealed portion,

at least a portion of the unsealed portion of the generally flat non-embossed bottom side ~~lying upon the reagent and~~ cooperating with the substrate to define a channel extending between the opening and the reagent.

Claim 14 (Original): The biosensor of claim 13, wherein the sealed portion has an interior border that is generally U-shaped.

Claim 15 (Original): The biosensor of claim 14, further comprising electrodes positioned on the substrate and at least a portion of the electrodes are positioned in the channel.

Claim 15 (Original): The biosensor of claim 13, wherein the sealed portion has an interior border that converges from the opening toward the reagent.

Claim 16 (Original): The biosensor of claim 13, wherein the cover includes two openings and the channel extends between the openings.

Claim 17 (Original): The biosensor of claim 16, wherein the cover includes opposite edges and the openings intersect the edges respectively.

Claim 18 (Original): The biosensor of claim 16, wherein the substrate includes notches that are aligned with the openings in the cover.

Claim 19 (Original): The biosensor of claim 16, wherein the sealed portion has an interior border that converges from the first opening toward the second opening.

Claim 20 (Currently amended): A method of forming a biosensor having a capillary channel, the method comprising the steps of:

- providing a substrate,
- positioning a reagent on the substrate,
- providing a cover having a top surface and a non-embossed bottom surface,
- placing a thermoset adhesive on the bottom surface of the cover,

placing the adhesive-coated bottom surface on the substrate so that at least a portion of the thermoset adhesive is positioned on the reagent, and

heating portions of the thermoset adhesive to couple the bottom side to the substrate to define a sealed portion and an unsealed portion, the unsealed portion cooperating with the substrate to define a capillary channel extending across the reagent.

Claim 21 (Original): The method of claim 20, further comprising the step of placing electrodes on the substrate.

Claim 22 (Currently added): A biosensor comprising:

a substrate,

a reagent positioned on the substrate,

a cover positioned on the substrate, the cover including a top side and a bottom side, the bottom side being coupled to the substrate to define a sealed portion and an unsealed portion, and

a non-preformed channel positioned between the unsealed portion of the bottom side and the cover, the channel extending across the reagent.

Claim 23 (Currently added): The biosensor of claim 1, wherein the cover includes an opening and the channel extends between the opening and the reagent.

Claim 24 (Currently added): The biosensor of claim 23, wherein the cover includes opposite ends and the channel extends between the opening and one of the ends.

Claim 25 (Currently added): The biosensor of claim 23, wherein the cover includes a second opening and the channel extends between the first and second openings.

Claim 26 (Currently added): The biosensor of claim 23, wherein the cover includes a second opening that is aligned with the reagent.

Claim 27 (Currently added): The biosensor of claim 26, wherein the channel converges from the first opening toward the second opening.

Claim 28 (Currently added): The biosensor of claim 22, further comprising electrodes positioned on the substrate and the channel extends across at least a portion of the electrodes.

Claim 29 (Currently added): The biosensor of claim 1, wherein the channel has a height that is less than 10  $\mu\text{m}$ .

BI  
Control

Claim 30 (Currently added): The biosensor of claim 1, further comprising an adhesive positioned between the cover and the substrate.

Claim 31 (Currently added): A biosensor comprising:

a substrate,

a reagent positioned on the substrate,

a cover positioned on the substrate, the cover having a top side and a bottom side, and an opening extending between the top and bottom sides, the bottom side being coupled to the substrate to define a sealed portion and an unsealed portion, and

a non-preformed channel positioned between the unsealed portion of the bottom side and the cover, the channel extending between the opening and the reagent.

Claim 32 (Currently added): The biosensor of claim 31, wherein the sealed portion has an interior border that is generally U-shaped.

Claim 33 (Currently added): The biosensor of claim 32, further comprising electrodes positioned on the substrate and at least a portion of the electrodes are positioned in the channel.

Claim 34 (Currently added): The biosensor of claim 31, wherein the sealed portion has an interior border that converges from the opening toward the reagent.

B1  
Cont'd